



PATENTS

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Ted Christopher Examiner: F. Jaworski

Serial No.: 08/746,360 Art Unit: 3305

Filed: November 8, 1996 Docket: 9872

For: FINITE AMPLITUDE DISTORTION-
BASED INHOMOGENEOUS PULSE
ECHO ULTRASONIC IMAGING

Dated: March 20, 1998

Assistant Commissioner for Patents
Washington, DC 20231*#14 A.*
*4-21*LETTER

Sir:

Applicant wishes to bring to the attention of the Examiner that applicant's representative has recently had the opportunity to view a limited segment of two video tapes (without audio) which were reportedly presented publicly at a time prior to the filing of the present application. Neither applicant nor applicant's attorney is in possession of either video tape.

The video presentation appears to be directed to an ultrasound system used to present the cardiac anatomy of a dog. The tapes purport to show (in the absence of any accompanying sound) a baseline image generated by an ultrasound system prior to the injection of contrast agents into (the blood stream of) the subject cardiac system viewed. In the baseline mode (as well as in the contrast mode) shown in one tape, a reference to

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Dated: March 20, 1998

WAD/J
Frank S. DiGiglio

"second harmonic" appears in the frame as the contrast agent appears to be injected into the subject, causing enhancement of the cardiac image.

It is understood that the contrast agents utilized in these videos generate an enhanced amplitude return echo at a frequency other than the principle frequency, in order to be distinguished from the echo signal generated from the tissue itself. Accordingly, the reference to the "harmonic" mode or "second harmonic" was apparently used in anticipation of receiving and displaying an echo from the contrast agents and not the native tissue. Any baseline "image" which was presented in the video was the result of the reflection of the principle frequency and a number of harmonics including the first, second, third and n^{th} harmonics, as component parts. As presented by the video, only undifferentiated harmonics are provided in the baseline mode, which frequencies derive from the reflection of a series of sine waves used to generate the principle frequency transducer pulse in the first instance. It is apparent that no effort was indicated in either of these tapes to take advantage of the harmonic principle generated by the tissue (to the exclusion of contrast agents) underlying the present invention.

Respectfully submitted,



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FSD/jc

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TRANSMITTAL LETTER
(General - Patent Pending)

Docket No.
9872

In Re Application Of: **Ted Christopher**

MAR 27 1998

Serial No.
08/746,360

Filing Date

November 8, 1996

Examiner
F. Jaworski

Group Art Unit
3305

Title: FINITE AMPLITUDE DISTORTION-BASED INHOMOGENEOUS PULSE ECHO ULTRASONIC IMAGING

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GROUP 3300

Transmitted herewith is:

Letter

in the above identified application.

- No additional fee is required.
- A check in the amount of _____ is attached.
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 - Charge the amount of _____
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Signature

Dated: **March 20, 1998**

Frank S. DiGiglio; Reg. No. 31,346

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Signature of Person Mailing Correspondence

Frank S. DiGiglio

Typed or Printed Name of Person Mailing Correspondence

CC: